

[METHOD AND APPARATUS FOR PERFORMING DIAGNOSTICS ON A DOWN-HOLE COMMUNICATION SYSTEM]

Abstract

A method for performing diagnostics on a wired drill pipe telemetry system of a downhole drilling system is provided. The method includes passing a signal through a plurality of drill pipe in the wired drill pipe (WDP) telemetry system, receiving the signal from the WDP telemetry system, measuring parameters of the received signal and comparing characteristics of the received signal parameters against a known reference to identify variations therein whereby a fault in the wired drill pipe telemetry system is identified. The signal, in the form of a waveform or a pulse, is passed through the WDP telemetry system. The impedance and/or time delay of the received signal is measured. By analyzing variations, such as resonance and/or reflections in the signal, the existence and/or location of a fault in the WDP telemetry system may be determined.